

# Christopher R. Culpepper

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## CAREER OBJECTIVE

To continue my career in Electrical or Computer Engineering: designing electronic hardware, working in the RF domain, or creating embedded software, preferably in the aerospace or subsurface domain.

## EXPERIENCE

*Senior Electrical Engineer (Previous Systems Engineer and Co-op)* *July 2013 - Present*  
General Dynamics Mission Systems, Pittsfield MA

- Developed and executed evaluation and qualification tests for inherited hardware
- Performed integration and repair operations on legacy hardware
- Performed tasking at customer locations and pre-deployment locations
- Go-to person in the lab to diagnose and troubleshoot weird hardware and installation issues
- Performed software and systems testing on high-integrity mission-critical software

*Test Engineer Co-op*

*January 2016 - May 2016*

Space Exploration Technologies, Hawthorne CA

- Designed and built hardware to test bias-T HD cameras
- Created software to automate the creation of trouble reports
- Developed tests to test flight avionics hardware
- Troubleshoot issues with avionics test racks

## PROJECTS

*Radio-Internet Hotspot Transceiver (Multidisciplinary Senior Design)*

- Worked as a team leader to complete self-appointed tasks
- Completed final PCB design, layout, assembly and test (It worked!)
- Device acted as an audio bridge between RF and the Allstar radio network
- Completed entire design process from customer requirements to prototyping and handoff

*24 Hours of Lemons Racecar*

- Procured \$500 racecar, and gathered 5 person team
- Personally designed and worked together with team to build roll cage to specifications
- Operated under strict deadlines to complete car
- Organized and managed team of 5 people to help build car

*Bluetooth Split Mechanical Keyboard (In Progress)*

- Designed symmetrical split keyboard PCB to reduce PCB cost
- Keyboard PCB acts as mechanical plate to secure the keystitches
- Each side of the keyboard has an identical circuit to use for the right or left
- Utilizes a Bluetooth capable microcontroller instead of a Bluetooth module
- Currently developing software, will include master/slave arbitration, USB connectivity

*Wideband Oxygen Sensor Controller*

- Designed, built and programmed sensor controller that measured oxygen concentration
- Incorporated PID loops to keep a sensor at a constant temperature and oxygen concentration
- Could have been calibrated to measure accurate oxygen concentrations

*Assembly Language Pong Game*

- Created a 1.5D Pong game for a school project in HCS12 assembly
- Required HCS12 assembly, PWM, ADC and digital output

Various Other Projects:

RIT Rocket Initiative power board  
3D Printer modifications

Race Car data logger and communication board  
Electric Fence Controller

## SKILLS & AWARDS

Eagle Scout

A+ Certified

Languages & Software:

C  
Kicad PCB Design Software  
Linux  
VHDL

Python  
ARM & HCS12 Assembly  
DOORs Requirement Management  
Networking Equipment Configuration

## EDUCATION

*Bachelor of Science, Computer Engineering*

Rochester Institute of Technology, Rochester NY, Graduated May 2017

Data Communication and Networks  
Digital System Design  
Assembly Language Programming

Digital IC Design  
Cyborg Theory  
HW & SW Design for Crypto Applications

## PERSONAL INTERESTS AND HOBBIES

Working towards pilot licence  
Amateur Radio Extra  
Motorcycle and automobile repair

Camping, hiking, and dancing  
Photography  
Licked thing that was in space